

SNET's TFP

Docket No. 95-03-01
Request No. OC108SAT
August 23, 1995
Page 1 of 1

OFFICE OF CONSUMER COUNSEL
Interrogatories to The Southern New England Telephone Company

TOTAL FACTOR PRODUCTIVITY: FIVE YEAR AVERAGE GROWTH

Witness Responsible: Robert R. Laundry

OC108SAT: Provide SNET's "five year average annual growth of productivity" 1990 through 1995, as well as, the projected "five year average annual growth of productivity" through the year 2009. See Decision in Docket No. 92-09-19 at page 44.

Answer: The average growth of Total Factor Productivity (TFP) for the years 1990 through 1994 was .9%. Please see response to OC107SAT for further information regarding Company TFP.

OFFICE OF CONSUMER COUNSEL
Interrogatories to The Southern New England Telephone Company

MEASURES OF PRODUCTIVITY

Witnesses Responsible: Robert R. Laundry
Anne U. MacClintock

Answer (cont'd):

Company's output and inputs (labor, capital and materials). Recently, the company engaged Dr. Melvyn Fuss and Dr. Leonard Waverman from the University of Toronto to perform an historical Total Factor Productivity study. The study results for the years 1990-1994 follow:

SNET TOTAL FACTOR PRODUCTIVITY
Growth Rates

	TFP % change	Output % change	Input % change
1990	1.3	1.4	.1
1991	-.2	-1.6	-1.3
1992	-.9	-3.2	-2.3
1993	3.9	1.0	-2.8
1994	.6	0.0	-0.6
Average	.9	-.5	-1.4

b. SNET does not have direct knowledge regarding TFP measurements that other telcos are using. However, in 1994 SNET participated in an industry-wide TFP study conducted by Christensen Associates for the United States Telephone Association for use in the FCC Price Cap Performance Review for Local Exchange Carriers, CC Docket No. 94-1. In addition to SNET, the companies included in this study were Ameritech, Bell Atlantic, BellSouth, GTE, NYNEX, Pacific Telesis, Southwestern Bell, and US West. The original study covered the time period 1984-1992, with an update for 1993. The table on the next page summarizes the results of the study.

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Interrogatories to The Southern New England Telephone Company

MEASURES OF PRODUCTIVITY

Witnesses Responsible: Robert R. Laundry
Anne U. MacClintock

Answer (cont'd):

LOCAL EXCHANGE CARRIER TOTAL FACTOR PRODUCTIVITY
Growth Rates

	TFP	Output	Input
1984			
1985	1.1	2.4	1.3
1986	2.8	3.0	0.2
1987	1.8	3.7	1.9
1988	2.1	5.2	3.1
1989	2.0	4.8	2.7
1990	4.6	3.7	-0.9
1991	1.2	2.3	1.1
1992	3.5	1.9	-1.6
1993	2.6	3.6	1.0
Average	2.4	3.4	1.0

c. The Company's plans for additional work force reductions are reflected in the forecasts filed on June 19, 1995 in Docket No. 95-03-01. Since the time these forecasts were prepared, some assumptions have changed. For example, the number of people who decided to leave the Company as a result of the Early Out Option exceeded the original assumption. The various departments in the Company are assessing the impact in terms of the number of people to retain by extending their departure date, the number of people to be hired on a temporary basis, and the use of contingent work force to fill peak workloads. The Company plans to prepare appropriate updated pro formas and selected schedules and file them with the DPUC in late October before the late file exhibit hearing.

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Interrogatories to The Southern New England Telephone Company

MEASURES OF PRODUCTIVITY

Witnesses Responsible: Robert R. Laundry
Anne U. MacClintock

Answer (cont'd):

d. Please see OC111SAT and OC112SAT for workforce per access line in 1993 and 1994 for SNET and other LECs.

e. The Company does intend to bring its cost per access line closer to industry averages. The formulation of the Continuous Process Improvement Team is one way the Company plans to do this. The work of the Continuous Process Improvement Team has been and continues to be focused on making quality improvements to processes along with realizing costs reductions. There are many programs this team is working on throughout the Company that will help bring our cost per access line closer to industry averages (see Workpaper WPC-3.28 of Docket No. 95-03-01).

f. The proposed price regulation plan breaks the link between costs appropriate in cost-based regulation of revenue requirements and prices. Price regulation instead, provides the same incentives as competitive firms, to set prices in response to market forces. The Company's plan ensures that 1) price (except for certain specified services such as local residence) would be above TS-LRIC (TS-LRIC already includes efficiency assumptions about the future); and 2) the level of intrastate earnings is monitored. Therefore, no further explicit price reductions are necessary.

OFFICE OF CONSUMER COUNSEL
Interrogatories to The Southern New England Telephone Company

RESPONSE TO INTERROGATORY OCC-219, DOCKET NO. 92-09-19

Witness Responsible: Robert R. Laundy

OC110SAT: Provide a copy of SNET's "Response to Interrogatory OCC-219" as discussed in the Decision in Docket No. 92-09-19 at pp. 44 and 47.

Answer: The response to Interrogatory OCC-219 as discussed in the Decision in Docket No. 92-09-19 at pp. 44 and 47 is attached. (See Attachment A).

It should be noted that the productivity figures quoted in OCC-219 do not reflect the methodology of the productivity study currently underway by Drs. Melvyn Fuss and Leonard Waverman of the University of Toronto. Therefore, the figures in OCC-219 will not precisely correspond with the Fuss/Waverman results. The TFP results from the Fuss/Waverman study for the years 1990-1994 are included in the response to OC107SAT.

Docket No. 95-03-01
Request No. OC110SAT
Attachment A
August 23, 1995
Consisting of 1 page

Request No. OCC-219
Filed in Docket No. 92-09-19
On December 31, 1992
(paper copy only)

OFFICE OF CONSUMER COUNSEL
Interrogatories to The Southern New England Telephone Company

PRODUCTIVITY: TOTAL FACTOR

The Southern New England Telephone Company
Docket No. 92-09-19

Witness Responsible: J. R. Green
J. A. Sadek

Question: OCC-219 Productivity. List all productivity increases the Company realized during the year ended September 30, 1992 and expects to realize in the year following. Please state the Company's opinion as to whether productivity increases will offset future wage increases. If not, explain fully why not.

Answer: Total factor productivity increases for the year ended September 30, 1992 are not available. The most recent productivity study was undertaken in the first half of 1992 with results through the end of 1990. SNET's 10 year productivity history is shown below:

	<u>% Change</u>	<u>5 Year Average</u>
1981	4.5	4.8
1982	-0.2	3.1
1983	-0.7	1.9
1984	0.6	0.9
1985	1.8	0.3
1986	4.8	1.3
1987	4.7	2.5
1988	2.7	3.0
1989	1.4	2.8
1990	-0.7	1.6

Since many factors can cause variability in productivity on a year-to-year basis, the 5 year average better reflects the Company's productivity trend because it minimizes these effects.

Measurement of productivity for 1991 and forecasts for 1992 and 1993 have not been performed. Therefore, the Company is unable to determine empirically whether or not productivity increases will offset future wage increases. However, the Company is constantly attempting to find ways to improve the efficiency of its operations.

OFFICE OF CONSUMER COUNSEL
Interrogatories to The Southern New England Telephone Company

TOTAL FACTOR PRODUCTIVITY: SNET MONITORING REPORT

Witness Responsible: Robert R. Laundy

OC122SAT: Provide the SNET productivity monitoring system results submitted on or before April 1, 1994 in response to Order No. 4, Phase 1, Docket No. 92-09-19.

Answer: A copy of the SNET productivity monitoring system results is attached in paper form.

It should be noted that the total factor productivity figures in SNET's productivity monitoring report do not reflect the methodology of the productivity study currently underway by Drs. Melvyn Fuss and Leonard Waverman of the University of Toronto. Therefore, the numbers in the monitoring report will not precisely correspond with the Fuss/Waverman results.

Docket No. 95-03-01
Request No. OC122SAT
August 23, 1995
Attachment A
Consisting of 7 pages

Docket No. 92-09-19, Order No. 4
Filed on March 31, 1994
(paper copy only)

Southern New England Telephone
227 Church Street
New Haven, Connecticut 06510
Phone (203) 771-3802



March 31, 1994

Kathleen A. Carrigan
Attorney

Robert J. Murphy, Executive Secretary
Department of Public Utility Control
One Central Park Plaza
New Britain, CT 06051

MMD
JML
LDH
AUM
PND
EHS
MEH
MM
KAC
JC

RSZ
CC
PPC
TRD.
LJB

Re: DPUC Docket No. 92-09-19
Application of The Southern New England Telephone Company to
Amend Its Rates and Rate Structure

Dear Mr. Murphy:

In compliance with Order Number 4 of the July 7, 1993 Decision in the
above-captioned docket, The Southern New England Telephone Company files herein its
Productivity Monitoring report.

Should there be any questions concerning this submission, please do not hesitate to
contact me.

Very truly yours,

CERTIFICATION

An original and fifteen (15) copies of the foregoing have been hand-delivered this
March 31, 1994 to Robert J. Murphy, Executive Secretary, Department of Public Utility
Control, One Central Park Plaza, New Britain, CT 06051, and two (2) copies hand-
delivered this March 31, 1994 to John F. Merchant, Office of Consumer Counsel, Suite
501, 136 Main Street, New Britain, CT 06051.

Kathleen A. Carrigan
Commissioner of the Superior Court

Docket No. 92-09-19
Order No. 4
March 31, 1994
Consisting of 5 Pages

SNET

PRODUCTIVITY MONITORING

The information responding to Docket No. 92-09-19, Order No. 4 pertaining to SNET's productivity monitoring system is contained in the following pages. SNET tracks its productivity performance and anticipated improvements by utilizing a variety of measures. As the attached information shows, SNET's information collection consists of (1) Total Productivity Factor (TFP); (2) Expense Per Line on a Comparative Basis; (3) 1992 Employees and Expense Per Access Line on a Comparative Basis and (4) SNET Employees per 10,000 Access Lines. Additionally, major programs which are currently being implemented which impact on productivity measure of employees per 10,000 access lines are also provided.

In general, the TFP figures reflect the resultant effects of the economic recession in Connecticut and the impact of competition. Employees per 10,000 access lines and expenses per access line show favorable trends in line with Company expectations.

SNET Total Factor Productivity

One gauge of SNET productivity is reflected in the Company's Total Factor Productivity measure. Productivity here is defined as the ratio of output to inputs (or the ratio of goods and services produced from a certain amount of capital and labor). Increased efficiency is demonstrated to the extent that output per unit of input increases from one time period to the next. Below is a summary table of the Company's TFP gains/losses for 1981-1992. The figures represented below were derived using the widely accepted methodology by the well known economist Dr. John Kendrick, former Chief Economist for the US Department of Labor, and former Vice President for Economic Research of the Conference Board.

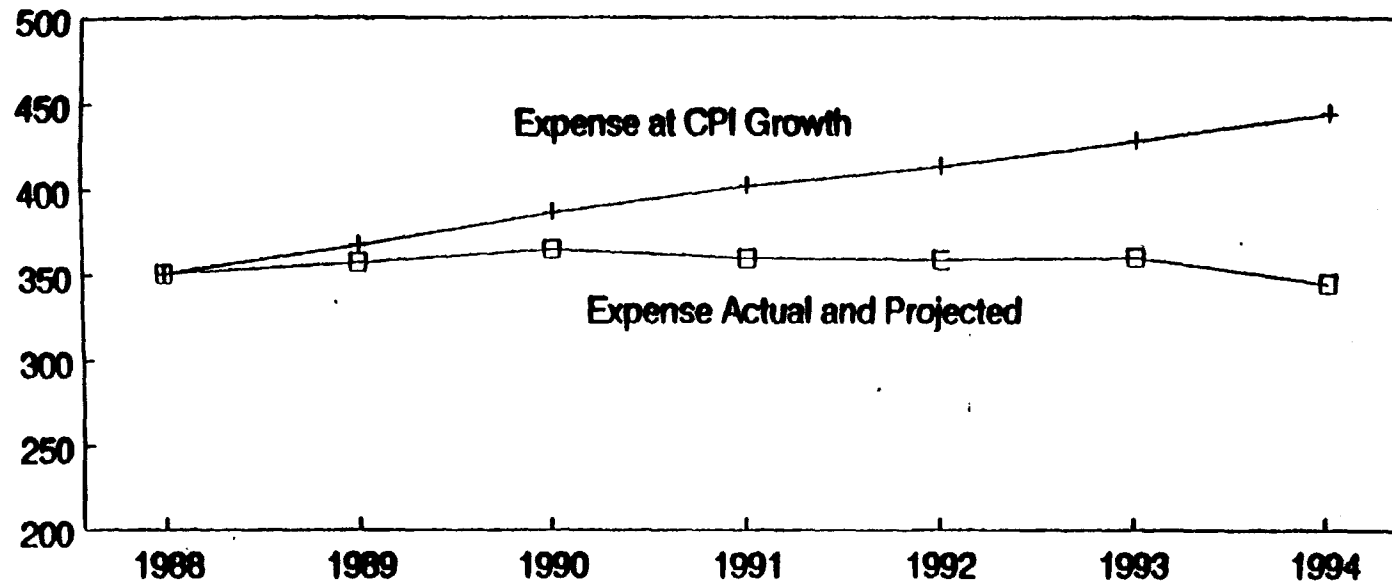
Summary of Total Factor Productivity, 1981-1992

	(1)	(2)
	TFP	5 Year Average
1981	4.5%	4.8%
1982	-.2	3.1
1983	-.7	1.9
1984	.6	.9
1985	1.8	.3
1986	4.8	1.3
1987	4.7	2.5
1988	2.7	3.0
1989	1.4	2.8
1990	-.7	1.6
1991	-1.4	.4
1992	.7	.6

The five year average (Column 2) is a better measure of the Company's productivity trend because it reduces the impact of year-to-year variability. Thus, it can be said that the Company's productivity posted fairly constant increases in the 2.5% to 3.0% range for 1987, 1988, and 1989. The effect of the recession is fully evident in the 1990-1992 time period as productivity gains diminish, resulting almost entirely from declining demand.

As the Department recognized in its Final Decision in Docket No. 92-09-19, page 44, examining productivity on a year-to-year basis (Column 1) may be misleading because TFP in any given year can be influenced by a wide variety of factors. For example, the current recession (as measured by the Connecticut Economic Index) began in mid-1989 which dampened demand for the Company's services. Competition also has affected the Company's sales. Real output growth averaged .16% per year over the period 1988-1992 versus 5.49% for the 1964-1992 time frame. In addition, capital and labor inputs generally do not respond quickly when demand slackens. Capital budgets are somewhat inflexible and, historically, the Company had never utilized employee layoffs as a means of reducing labor expense. It can be noted, however, that the Company's force reductions have helped bolster productivity in each year since 1988. The average annual reduction in labor input over the 1988-1992 time period was -4.93% versus .57% over the 1964-1992 time frame. However, the gains resulting from reduced labor input only partially offset the erosion of demand caused by the long term recession.

EXPENSE PER LINE



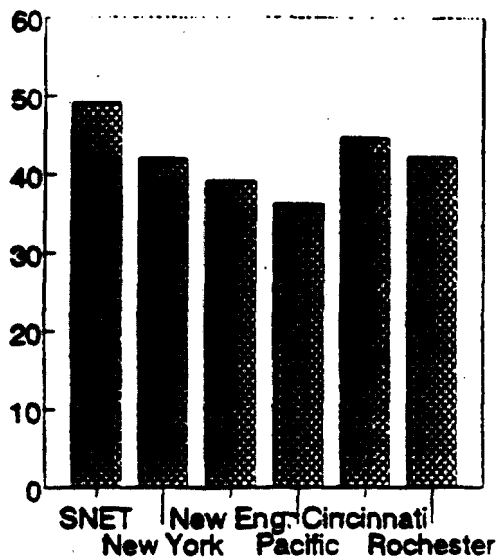
EXPENSE PER LINE EXCLUDING EARLY RETIREMENT CHARGES

Net Expense Per Line	SNET	New York	New Eng.	Pacific Bell	Cincinnati	Rochester	CPI	SNET Inflated
1988	350	416	353	316	395	257	4.0%	350
1989	357	415	369	289	417	249	4.8%	367
1990	385	419	359	285	334	254	5.3%	387
1991	380	433	398	279	335	269	4.0%	402
1992	359	380	339	280	334	254	2.9%	414
1993	360	NA	NA	NA	NA	NA	3.5%	428
1994	345	NA	NA	NA	NA	NA	3.7%	444

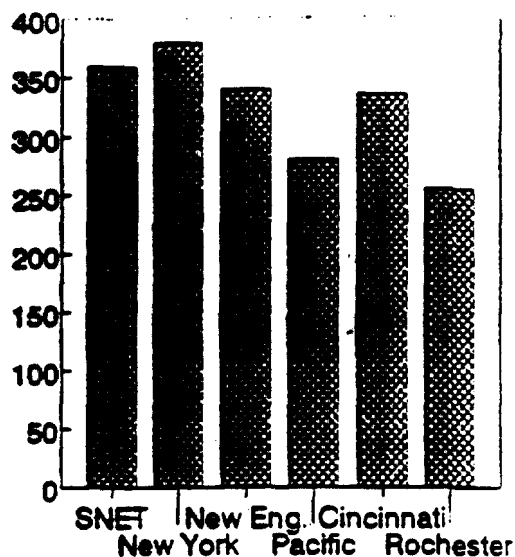
Note: 1993 data has not yet been filed with the FCC.

1992 EMPLOYEES AND EXPENSE PER ACCESS LINE

Employees Per 10,000 Lines



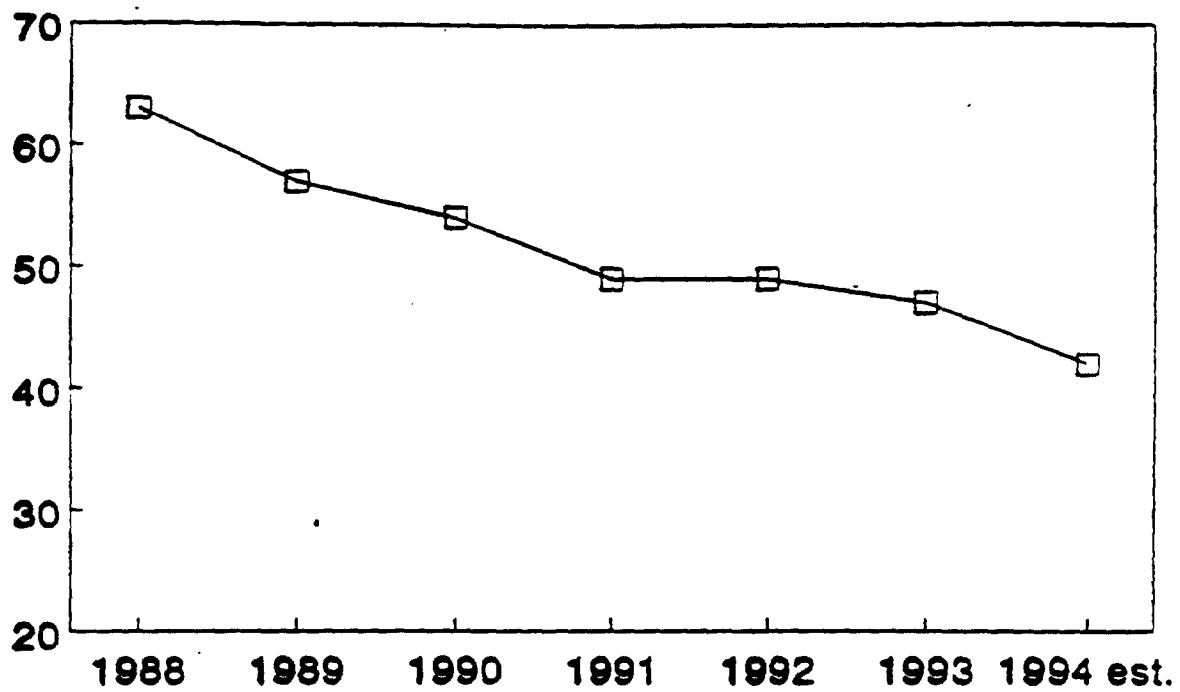
Expenses Per Line



	<u>SNET</u>	<u>New York</u>	<u>New Eng.</u>	<u>Pacific</u>	<u>Cincinnati</u>	<u>Rochester</u>
Employees Per 10,000 Access Lines	49	42	39	36	45	42
Expenses Per Access Line*	359	380	339	280	334	254

- New York and New England Telephone have fewer employees per 10,000 access lines due to central staff excluded from their headcount and different practices for contract labor and outside services.
- In "Expenses per Access Line" direct employees, central staff and external resources are all included in the companies' expenses.
- Expenses per access line show that SNET has a similar cost structure to its surrounding neighbors which share the same cost of living, similar geography, etc.
- * Expenses are on an FCC basis as filed in ARMIS reports and exclude publishing and depreciation. This basis provides the most comparable data.

**EMPLOYEES PER 10,000 ACCESS LINES
SNET**



1988	63
1989	57
1990	54
1991	49
1992	49
1993	47
1994 est.	42

**MAJOR INDIVIDUAL PROGRAMS CURRENTLY BEING IMPLEMENTED
WHICH IMPACT ON PRODUCTIVITY MEASURE OF EMPLOYEES
PER 10,000 ACCESS LINES**

<u>Program</u>	<u>Estimated Force Savings for 1992 through 1994</u>
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Network Engineering/Construction	300
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The Network Engineering/Construction program encompasses work process improvements in the areas of outside network engineering, inside network engineering, construction and related staff support groups.

Provisioning	175
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The Provisioning program includes work improvements and operating system enhancements for the service provisioning areas of customer contact, service order processing and field installation.

Plain Old Telephone Service (POTS) Repair	226
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The POTS Repair program is comprised of work process improvements for the repair and preventative maintenance of basic telephone service.

Special Services	150
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The Special Services program encompasses work process improvements and operating system enhancements for the service provisioning and repair of special services.